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BY ELECTRONIC MAIL

Ms. Monica Harvey
Virginia Department of Environmental Quality
629 East Main Street
P.O. Box 1105
Richmond VA 23218

Re: Comments on Draft Permits

Dear Ms. Harvey:

I. INTRODUCTION

On behalf of the City of Alexandria, Virginia, ("Alexandria"), we submit the following comments in response to the State Air Pollution Control Board's ("SAPCB") proposed draft State Operating Permits ("SOP") for the control of sulfur dioxide ("SO₂") emissions from the Mirant Potomac River Generating Station ("PRGS"). In addition, Alexandria hereby submits supplemental comments to the SAPCB's inquiries concerning (i) the use of intermittent controls to regulate the operation of the plant and (ii) the proposed merging of the plant's stacks to determine emissions limitations. Alexandria submits that, pending the issuance of a comprehensive SOP, it is preferable that the PRGS operate pursuant to a short-term, interim SOP that limits SO₂ emissions. Such an interim regime better serves the ultimate goal of a comprehensive SOP that ensures compliance with both the National Ambient Air Quality Standards ("NAAQS") for all criteria pollutants and the applicable Virginia Significant Ambient Air Concentration ("SAAC") guidelines for toxic pollutants. In these comments, we first address the SOP options proposed by the SAPCB and the relevant NAAQS-compliance scenarios. We then respond to the SAPCB's inquiries concerning the use of intermittent controls and the merging of the stacks at the PRGS.

These comments address Alexandria's positions on the SAPCB's permit options. In summary they are:

- (i) Permit Option 1 is based on standard modeling and pre-defined operating scenarios in a manner similar to those identified in Table 1 of the

Environmental Protection Agency's ("EPA") Administrative Compliance Order ("ACO"). Although cumbersome, it provides achievable compliance parameters and establishes a framework for the next regulatory regime – a comprehensive operating permit. Emission limits should take effect no later than July 1, 2007 and the permit should be of limited duration;

- (ii) Permit Options 2 and 3 fail to fully satisfy the compliance requirements for a permit, particularly in light of their reliance on predictive modeling and ambient monitoring. They are supportable with the removal of these dispersion techniques and the addition of more stringent emission limits. Permits should be for a limited duration;
- (iii) The use of intermittent controls and the proposed stack merge are prohibited dispersion techniques and illegal for use in any permit;
- (iv) As set out more fully in Attachment 2, a comprehensive operating permit is the solution for ensuring long-term compliance for the PRGS.

II. BACKGROUND

In light of the multiple submissions from numerous parties in this proceeding, the SAPCB is well-versed on the background and processes relevant to the PRGS. Suffice it to say, from the perspective of Alexandria and its residents and those of adjacent jurisdictions, such as Arlington and the District of Columbia, the period of excessive acute and long-term exposure to harmful pollutants must cease. The SAPCB's process must be expeditious and culminate in a comprehensive SOP that is fully protective of the environment and the public health.¹

As stated previously, Alexandria recognizes that there may be necessary transition stages to achieve a comprehensive SOP. These include a short period subsequent to the termination of the EPA's ACO, *i.e.*, June 2007, during which the existing PEPCO electricity transmission lines will be taken out of service ("line outage period"), and a brief period of operation after the installation of PEPCO's two (2) additional 230 kV transmission lines pending the development of a permanent and comprehensive operating permit.

Alexandria acknowledges the need for flexibility and accommodation during the line outage period, *i.e.*, operating to the level required by the U.S. Department of Energy ("DOE") Order. Alexandria submits that the interim operating regime must reflect the reality of this situation. The comments presented below allow for the interim permit to accommodate flexibility during the month of June 2007.

¹ Mirant's model evaluation proposal is a strategy to prolong study and defer action on emission controls. It is indefensible that at this stage in its history, the PRGS operates without a set of clearly defined and legally enforceable, *i.e.*, under the Clean Air Act citizen suits provision, operating limits.

Once the transmission lines are installed, however, the operation of the plant must be dictated not by the arbitrary mandate of the DOE and the questionable regulatory contortions of the EPA, but by hard emissions limits fully protective of the NAAQS and public health. In their comments to the SAPCB concerning the proposed orders submitted by the Virginia Department of Environmental Quality ("VDEQ"), Mirant and Alexandria, both PEPCO and PJM Interconnection, LLC ("PJM") expressed their concerns only for this line outage period. In fact, PEPCO also submitted a draft Order by Consent for the sole purpose of maintaining the status quo "until the energizing of both new 230 kV transmission lines described in PEPCO's Notice of Planned 230 kV Circuit Planned Outages to the Department of Energy ("DOE") on November 27, 2006, which outages PEPCO has informed DOE are scheduled to end on or about July 1, 2007." In its comments to VDEQ, PJM stated that "the full capacity of the Potomac River facility must be available for reliability after June 1, 2007 and until such times as the line outages are over and the relevant transmission system upgrades are completed and in service." Thus, according to the entities that are responsible for providing power to the region, the reliability concerns are eliminated after the transmission system upgrades are complete.²

In its consideration of the impacts on public health and the environment, the SAPCB should not be constrained by the unsupported and inflated assertions of the social and economic necessity of the PRGS. As part of its transmission infrastructure enhancement program, PEPCO also installed and energized in June 2006 two (2) new 69kV transmission lines primarily to service the Blue Plains Wastewater Treatment Plant in Washington, D.C. Accordingly, the suggestion that any restriction on the operations of the PRGS will result in the discharge from the treatment plant of raw sewage into the Potomac River is a blatant distortion of the facts. PEPCO is also enhancing its transmission infrastructure through upgrades to its Northeast D.C. substation (D.C. Public Service Commission Case No. 1053-E-82) and submission of its "Blueprint for the Future", a program of demand-side management and energy conservation measures (D.C. Public Service Commission Case No. 1056-E-2). Furthermore, any balancing of public health and environmental concerns with economic interests must be undertaken on a reasonable basis.³

² In its Order 202-07-2, the DOE stated: "Once completed, these two new 230 kV lines apparently would provide a high level of electricity reliability in the Central D.C. area even in the absence of production from the [PRGS]." Also, in support of PEPCO's and PJM's comments, the Edison Electric Institute recommends that the SAPCB "take steps to ensure that the operating permit for PRGS does not unduly restrict its operation, especially during the summer months *or until such time that PEPCO completes its transmission work.*" (Emphasis added.)

³ Alexandria views with a skeptical eye Mirant's assertions of the need for full operation of the PRGS due to an electricity capacity shortfall. Mirant Chairman and CEO Edward Muller has stated that Mirant could add 4,000 to 5,000MW of new or repowered capacity at its other plant sites in the Mid-Atlantic region. *Electric Power Daily*, March 6, 2007. In fact, the Public Service Commission of Maryland granted a Certificate of Public Convenience and Necessity on December 7, 2004 to nearly double the generating capacity at the Dickerson plant in Montgomery County, Maryland. Mirant currently has no plans, however, to proceed with this project. *Electric Supply Adequacy Report*, Public Service Commission of Maryland, January 2007. The Dickerson expansion would have required the installation of selective catalytic reduction ("SCR") systems. This is a more expensive proposition than operating the PRGS without such

III. SAPCB PERMIT OPTIONS

Alexandria supports a permit option over the issuance of a consent order or order. Alexandria's support is based on the fact that a permit furthers the goal of a NAAQS and SAAC protective comprehensive operating permit. Alexandria recognizes that these permit options primarily regulate SO₂ emissions and are meant as an interim mechanism prior to issuance of the comprehensive operating permit.

During June 2007, while line upgrades are occurring, Alexandria understands the need for flexibility in the PRGS's operations under the DOE's Order. Once line upgrades are completed, no accommodation is needed for operations that are not NAAQS compliant. Therefore these permit options should take effect no later than July 1, 2007 and must be for a limited duration.

1. Permit Option 1

- **As envisioned by Permit Option 1, Alexandria supports reliance on standard modeling and not predictive modeling to demonstrate compliance with SO₂ NAAQS.**

Permit Option 1 is based on establishing pre-defined operating scenarios in a manner similar to those identified in Table 1 of EPA's ACO dated June 1, 2006, i.e., these scenarios were developed via dispersion modeling to show compliance with the NAAQS. For each operating scenario, the allowable SO₂ emission rates were back-calculated using modeling results such that these emission rates would not cause SO₂ NAAQS violations. The emission rates are presented as short-term lb/MMBtu, lb/hour, and lb/day limits for each scenario, as well as an annual plant wide tons/year limit. The PRGS would be required to meet these limits without the use of any predictive modeling. Also, while the permit requires that SO₂ ambient monitoring be continued, the monitored concentrations are not required to be used to reduce emissions or otherwise alter operations.

- **Emission limits should take effect no later than July 1, 2007 and must be for a limited short duration.**

As proposed, Permit Option 1 specifies a total of forty-five (45) operating scenarios under which PRGS can operate. On any given day, PRGS can select any one of these scenarios for their operations. Given that the scenarios specify different emission limits, boiler loads and numbers of boilers, the recordkeeping, reporting and compliance determination under this permit would be very cumbersome. Compliance tracking will also be burdensome for the VDEQ over the long term, as such a large number of alternate scenarios is unprecedented and would require undue government resources to monitor the operations and maintain compliance. Therefore, if the SAPCB selects Permit Option 1,

pollution control technology and may be the underlying rationale for Mirant's corporate agenda with respect to its expansion plans.

Alexandria submits that it should only be adopted for a short term pending the issuance of a comprehensive permit with discrete emission limits.

During June 2007, while transmission line upgrades are occurring, Alexandria proposes the permit allow operations as required under the DOE order as long as Mirant takes all appropriate actions to minimize emissions, optimize the use of emission controls, and follow best management practices for the plant's operations. Starting July 1, 2007, the plant's operations must follow the operating scenarios described in Condition 9 of the Permit Option 1.

- **Regardless of level of operations, the use of pollution controls should be optimized to achieve sustainable maximum pollutant reductions.**

Under many of the operating scenarios, the listed lb/MMBtu limits are greater than the emissions that can be achieved by the use of Trona. In fact, several of these lb/MMBtu limits are even greater than uncontrolled SO₂ emissions from the plant's boilers. Virginia regulations require that "[a]t all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions." 9 VAC 5-20-40.E. As such, no emission limits can be established that allow less than the optimum use of the Trona control system. Therefore, even under scenarios where the plant can emit at greater levels without causing NAAQS violation, e.g., when it operates only one or two boilers, Mirant must use Trona to minimize emissions to the extent practicable. The emission limits established in the permit must reflect this optimum use of the Trona system. The lb/MMBtu limits for every scenario in Condition 9 must be reviewed and, if necessary, revised to reflect an upper limit that must be achieved by each boiler at all times of operation. This upper limit must be based on the capability of the Trona system to maximize SO₂ reductions.

Alexandria remains concerned regarding the potential health effects of Trona. No studies have been performed to date regarding any adverse health effects related to Trona use. Alexandria requests that during the period of the interim permit, and prior to the issuance of the comprehensive SOP, Trona's health effects be assessed and any continued use of Trona be based on the results of this assessment.

- **Applicability of NSR/PSD must be evaluated for Trona installation.**

The EPA's ACO requires Mirant to submit to EPA and VDEQ a complete analysis of the applicability of NSR/PSD regulations to the installation of the Trona injection system. To Alexandria's knowledge, no such analysis has been submitted to date. The NSR/PSD applicability analysis must therefore be required under this interim permit and a determination must be made prior to the issuance of the comprehensive SOP. The analysis must include potential increases in particulate matter and carbon monoxide ("CO") emissions due to the use of Trona.

- **Resolve the inconsistency between the daily (24-hour) average and the corresponding 3-hour limit.**

Despite its scope, Permit Option 1 has several shortcomings in the emission limits listed in Condition 9 that must be addressed. First, many of the lb/MMBtu limits for the daily (24-hour) average are greater than the corresponding 3-hour limits. If the PRGS were to meet its 3-hour limits for all periods of a day, the daily limit cannot be greater than the 3-hour limit. This should be modified by making the daily limits equal to or less than the corresponding 3-hour limits.

- **Startup and Shutdown emissions must be modeled.**

Operations under this permit will require frequent startups and shutdowns of boilers. Emissions during periods of startup and shutdown are often greater than normal operations. The modeling supporting the operating scenarios developed for this permit must include emissions during these periods.

- **The modeling analysis supporting Permit Option 1, and the corresponding SO₂ emission limits, must be updated to follow standard modeling guidelines. Any deviation from the standard guidelines, including the use of non-standard downwash procedures, must be technically justified and approved by VDEQ.**

The emission limits in Condition 9 do not reflect a complete set of modeling runs. VDEQ requested Mirant to analyze meteorological data for 2001 in addition to the data for 2002 through 2006 used in developing these limits. Also, the modeling analysis currently does not account for impacts at elevated receptors other than those on Marina Towers. For example, VDEQ has indicated that additional modeling will be conducted for other nearby buildings such as the Alexandria House residences located to the south of the PRGS. Since no Equivalent Building Dimensions (“EBDs”) were developed for these other buildings, VDEQ has indicated that default BPIP-PRIME building dimensions will be used for receptors placed on these buildings. In addition, VDEQ has indicated that Mirant used an older version of the AERMOD model in developing these limits and therefore the modeling needs to be updated to reflect the use of the most recent version of AERMOD. The limits in Condition 9 must be reevaluated upon availability of these additional and updated modeling results.

The modeling conducted in support of Condition 9 uses EBDs in a manner inconsistent with how they were developed in the wind tunnel. For example, Mirant used EBDs developed for Boilers 1 and 4 to simulate downwash from Boilers 2, 3 and 5 for directions not analyzed for these stacks. The AERMOD model’s downwash algorithm accounts for and benefits from knowing the relative location of each stack on the roof of the building. The downwash dimensions provided to AERMOD should be specific to each stack and location. By using downwash dimensions developed for one stack to simulate downwash from another stack located elsewhere on the roof, erroneous data are provided to AERMOD. To correct this error, Mirant should either develop stack-specific EBDs or use default BPIP-PRIME dimensions where EBDs are not available.

Another serious deficiency is that the EBDs used in this modeling analysis were only developed for mid-load operating conditions, whereas they are being used to simulate downwash from maximum and minimum load operation. Any such use of EBDs is therefore inconsistent with modeling guidelines and standard modeling practice. Although EPA approved the EBDs, the approval was made with reservations and then only for the wind directions and stack configurations studied in the physical simulations, *i.e.*, the wind tunnel. EPA did not make a determination as to how the EBDs should be used in model simulations, *i.e.*, AERMOD, and recommended revisiting the physical simulations and calculations contained in the wind tunnel study. The EPA has undertaken further evaluation of the EBDs developed by Mirant and is expected to issue further guidance on their use in AERMOD. The use of EBDs should be limited to those situations specifically studied in the wind tunnel. For all other situations, default BPIP-PRIME dimensions should be used. Upon completion of the modeling analysis that addresses these issues, Condition 9 should be updated.

2. Permit Options 2 and 3

- The proposed Permit Options 2 and 3 are supportable as interim permits upon resolution of Alexandria's comments provided below, with the understanding that a comprehensive SOP would be issued soon.
- Alexandria proposes that emission limits be specified in a format (lb/MMBtu, tons/year, and lb/hr) specified under either permit option.
- More stringent emission limits, or reduced capacity factors, are required to show SO₂ NAAQS compliance. NAAQS compliance must be based on a complete analysis using EPA modeling guidelines. Any deviation from the standard guidelines, including the use of non-standard downwash procedures, must be technically justified and approved by VDEQ.
- Emission limits should take effect no later than July 1, 2007 and must be for a limited duration. Operation during June 2007 must require Mirant to take all appropriate actions to minimize emissions, optimize the use of emission controls and follow best management practices for the plant's operations.
- Both permit options allow predictive modeling and ambient monitoring in combination with specified emission limits. Modeling conducted by Alexandria shows SO₂ NAAQS violations at these emission limits.
- Both permit options propose the use of predictive modeling. This is prohibited under federal and state regulations and should not be allowed.
- Both permit options propose the use of ambient monitoring to vary emissions. The number of ambient monitors required is inadequate to assess NAAQS

compliance. Also, such use of ambient monitoring is prohibited under federal and state regulations and should not be allowed.

- The interim permit must require a complete NSR/PSD applicability analysis for the installation of the Trona injection system, as required by EPA's ACO. The analysis must be completed prior to the issuance of the comprehensive SOP.

As proposed by the SAPCB, Permit Options 2 and 3 specify upper bounds for SO₂ emission limits on short term and annual bases and require daily predictive modeling to establish operational levels for the next day that comply with the NAAQS using AERMOD-EBD. The predictive modeling component of these options is similar to that of EPA's ACO. Both permit options also require ambient monitoring of SO₂ to be used for triggering an alarm if any concentration exceeds 70% of NAAQS. In the event an alarm is triggered, the hourly emissions are reduced. Both permits specify interim emission limits for the first ten months, followed by more stringent emission limits beginning April 1, 2008, *i.e.*, the SO₂ emission limits are reduced with time and phased in over a ten-month period. As shown in Table 1 on page 10 of these comments, Permit Options 2 and 3 have different interim and final SO₂ emission limits.

The emission limits specified in these two permit options were developed by the SAPCB based on information available to date. Starting October 1, 2007, these proposed limits are substantially lower than the PRGS's 2006 SO₂ emission rate of 0.47 lb/MMBtu and reflect the SAPCB's intention of tightening emissions of harmful pollutants from this outdated plant. However, no modeling analysis was conducted specifically for these emission limits to verify whether they are protective of NAAQS. For example, unlike Permit Option 1, neither of these two options specifies how many boilers can operate at a time and at what load. The determination of a level of operation is based on predictive modeling. The use of predictive modeling allows the varying of plant's emissions based on weather conditions and is therefore a prohibited dispersion technique under federal and state regulations. Furthermore, the use of ambient monitoring as proposed in this permit allows the varying of emissions based on atmospheric concentrations of SO₂, and is also a prohibited dispersion technique under federal and state regulations. Alexandria does not support the use of predictive modeling or ambient monitoring for purposes of establishing permit limits.

Alexandria supports specification of emission limits that do not vary with weather conditions or monitored concentrations, *i.e.*, limits that are protective of NAAQS under all foreseeable conditions. For this purpose, Alexandria performed modeling analyses of the emission limits proposed in these two permit options using the agreed-upon modeling procedures, *i.e.*, using latest version of AERMOD, five years of NWS meteorological data (2000-2004) from Washington National airport, wind tunnel EBDs where applicable, BPIP-PRIME building dimensions where EBDs were not developed, a comprehensive network of receptors around the PRGS, and prescribed background SO₂ concentrations. These modeling procedures are the same as being used by Mirant and agreed to by VDEQ. For the Permit Option 2, which proposes no restriction on number of boilers, Alexandria assumed that all boilers would operate simultaneously at either mid-load or

max-load. For Permit Option 3, which specifies a plantwide hourly SO₂ emission limit that is more restrictive than Permit Option 2, Alexandria assumed that only the base load Boilers 3, 4 and 5 would operate simultaneously.

The results of Alexandria's modeling are provided in Attachment 1 to these comments. These results show that the impacts for all scenarios exceed the SO₂ short-term NAAQS for either the 3-hour or the 24-hour average, or both. In all cases, the 24-hour averaging period is the most restrictive, and based on Alexandria's calculations shown at the bottom of the table, the PRGS must operate at a capacity factor ranging from 47% to 65% (depending on the scenario modeled) in order to be NAAQS compliant. This can be achieved by reducing either the emission limits, the number of boilers operating, the hours of operation or the boiler load. A complete modeling analysis is necessary, however, to ascertain the actual impact reduction achieved by any of these measures. Such a modeling analysis would be similar to that performed under Permit Option 1, where various combinations of emission limits, boiler loads and number of boilers were modeled. Permit Options 2 and 3, as proposed, are not protective of the NAAQS without the predictive modeling and ambient monitoring. Such prohibited dispersion techniques cannot be a part of any permit issued by the SAPCB.

Based on the modeling analysis performed by Alexandria, Table 2 on page 10 of these comments contains revised emission limits that are protective of NAAQS. Alexandria can support the proposed Permit Options 2 and 3 with these suggested limits for a short term and without the use of predictive modeling and intermittent controls. Also, as discussed above, Alexandria can also support a permit similar to Permit Option 1 for a short term. Alexandria has consistently supported the issuance of a comprehensive SOP, and encourages the issuance of such a permit as expeditiously as possible. Attachment 2 to these comments provides additional comments regarding the analyses that must be performed to support the comprehensive SOP.

TABLE 1

SAPCB-PROPOSED EMISSIONS LIMITS FOR OPTIONS 2 AND 3

Phase-in Period	Option 2 Permit	Option 3 Permit
6/1/07 – 9/30/07	0.50 lb/MMBtu (average all boilers) ⁽¹⁾ 338 lb/hr (per boiler) ⁽²⁾⁽³⁾ 1,320 tons (total 4 months, plantwide)	1,000 lb/hr (total all boilers) ^{(1), (2)} 3,300 tons (total 10 months, plantwide)
10/1/07 – 3/31/08	0.40 lb/MMBtu (average all boilers) ⁽¹⁾ 270 lb/hr (per boiler) ⁽²⁾⁽³⁾ 2,000 tons (total 6 months, plantwide)	
4/1/08 onwards	0.28 lb/MMBtu (average all boilers) ⁽¹⁾ 270 lb/hr (per boiler) ⁽²⁾⁽⁴⁾ 3,500 tons (annual, plantwide)	800 lb/hr (total all boilers) ^{(1), (2)} 3,500 tons (annual, plantwide)

⁽¹⁾ Calculated hourly as a 3-hour average.

⁽²⁾ Hourly emissions for all boilers combined are limited to **700 lb/hr⁽¹⁾** for the rest of the phase-in period if any monitored SO₂ concentration for any averaging period exceeds 70% of the corresponding NAAQS at any time during the phase-in period.

⁽³⁾ Hourly limits based on 70% capacity.

⁽⁴⁾ Hourly limits based on 100% capacity.

TABLE 2

ALEXANDRIA-PROPOSED EMISSION LIMITS FOR OPTIONS 2 AND 3

Phase-in Period	Option 2 Permit	Option 3 Permit
6/2/07 – 6/30/07	Mirant must: <ul style="list-style-type: none"> • Use best management practices • Take all actions necessary to minimize emissions • Optimize the use of pollution controls to the extent practicable 	
7/1/07 onwards	0.14 lb/MMBtu (average all boilers) ⁽¹⁾ 128 lb/hr (per boiler) ⁽¹⁾ 1,780 tons (annual, plantwide)	480 lb/hr (total all boilers) ⁽¹⁾ 2,260 tons (annual, plantwide)

⁽¹⁾ Calculated hourly as a 3-hour average.

IV. LEGAL ISSUES

In response to the SAPCB's inquiries concerning certain legal issues related to the PRGS, Alexandria submits the following:

1. Are intermittent controls allowed as part of the permit and if not, are they allowed during a phase-in period or in a consent order?

Consistent with Alexandria's previous testimony, the short answer is no. The Clean Air Act ("CAA") is unequivocal in its prohibition on the use of dispersion techniques to establish emission limitations for the control of any air pollutant. 42 U.S.C. § 7423(a)(2). Dispersion techniques are any intermittent or supplemental controls varying with atmospheric conditions. 42 U.S.C. § 7423(b). The federal and Virginia regulations also define as dispersion techniques all intermittent or supplemental controls that vary the rate of emissions based on atmospheric conditions or ambient pollutant concentrations. 40 C.F.R. § 51.100(nn) and 51.100(hh)(1)(ii); 9 VAC 5-10-20. Such techniques are prohibited when establishing emission limitations required for control of air pollution. 40 C.F.R. § 51.118(a); 9 VAC 5-50-20.H. The one exception to this prohibition on intermittent controls applies only to such controls implemented prior to December 31, 1970. 40 C.F.R. § 51.119. This exception does not apply to the current proposals for intermittent controls for the PRGS. Furthermore, the CAA and implementing regulations do not differentiate between emission limitations established as part of a permit or those pursuant to a consent order. This is consistent with the legislative intent of the CAA. Thus, the prohibition on the use of intermittent and supplemental controls strictly applies regardless of whether a source is operating under a permit or a consent order and whether such permit or consent order is interim, phase-in or long-term.

The above CAA regulations were promulgated pursuant to Section 123 to satisfy emission limits requirements of State Implementation Plans ("SIP") developed under CAA Section 110. 42 U.S.C. § 7410. CAA Section 110 directs state regulatory agencies to adopt "a plan which provides for implementation, maintenance, and enforcement of" primary and secondary NAAQS. The implementation and maintenance of the NAAQS includes the issuance of operating permits; the enforcement of the NAAQS is through consent orders. Any SIP must address both of these aspects of NAAQS compliance, *i.e.*, implementation/maintenance and enforcement. For this reason, any permit or consent order issued to Mirant for the PRGS cannot allow the use of intermittent controls to show compliance with the NAAQS.

Furthermore, Virginia regulations require that "[a]t all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions." 9 VAC 5-20-40.E. This regulation requires optimizing the use of all pollution controls to achieve the greatest level of sustainable emission reductions at all times. The use of intermittent controls is therefore prohibited by this regulation.

2. Is the proposed stack-merge project prohibited under federal or state law as a prohibited dispersion technique?

On April 11, 2007, Alexandria submitted to EPA Region III, with copies to each of the SAPCB members, its position concerning the proposed stack merge project for the PRGS. (See Alexandria letter of April 11, 2007 to Donald S. Welsh and Judith Katz and legal authorities cited therein.) Put simply, the stack merge project is a dispersion technique for which, under well-established law and policy, dispersion credit is prohibited. The following are supplemental comments supporting this position. Furthermore, the project is an illusory benefit with merely a shifting of the pollutants and lacking a full analysis on the potential consequences, both intended and unintended in relying on this technique.

The stack-merge project involves combining the exhaust gases from five existing stacks into two stacks, *i.e.*, the combining of exhausts from Boilers 1 and 2 into the stack for Boiler 1, and combining the exhausts of Boilers 3, 4 and 5 into the stack for Boiler 4. The purpose of this project is strictly to enhance atmospheric dispersion to reduce impacts and gain dispersion credit that would allow an increase in emissions. As proposed, this project is defined as a dispersion technique under federal and state regulations. 40 C.F.R. § 51.100(hh)(1)(iii); 9 VAC 5-10-20. Furthermore, the project is an illusory benefit, merely shifting the pollutants to other parts of the City and woefully inadequate in addressing potential consequences, both intended and unintended, in relying on this technique.

Dispersion techniques are prohibited when establishing emissions limitations required for control of air pollution. 40 C.F.R. § 51.118(a); 9 VAC 5-50-20.H. The only exception available to Mirant from this prohibition on dispersion credit is when the stack merging is a change of operation that includes the installation of pollution controls and is accompanied by a net reduction in the allowable emissions of a pollutant. 40 C.F.R. § 51.100(hh)(2)(ii)(B); 9 VAC 5-10-20. It is important to note that a mere reduction in emissions achieved by accepting a smaller limit on allowable emissions is not sufficient to claim dispersion credit for stack merger, *i.e.*, installation of pollution controls is required for each pollutant for which credit is sought. The stack merging and the asserted installation of pollution controls should be integrally related and contemporaneous. Any pollution controls that Mirant currently employs were previously installed to meet other regulatory and compliance requirements. Therefore, the stack merger project as proposed by Mirant is a prohibited dispersion technique under federal and state law in determining emission limitations.

Consistent with EPA's well-settled policy regarding the prohibition of "double counting" of emission reductions, baseline emissions for PRGS should be defined as that demonstrated level of SO₂ emissions, prior to the proposed project, which was capable of complying with the SO₂ NAAQS. Counter to EPA and Mirant positions, the PRGS's "allowable" emissions cannot be those defined by the existing SO₂ limit in the EPA-approved SIP because that level of emissions has been documented as causing or

contributing to NAAQS violations. It is axiomatic that emissions which violate the NAAQS cannot justifiably be classified as “allowable”. Thus, even if no other activity were being contemplated at the PRGS, VDEQ is obliged to require PRGS to reduce its existing SO₂ emissions to a level that can be compliant with the NAAQS, *i.e.*, a pre-stack merge proposal level of SO₂ emissions that will be allowable. Using that level as the baseline allowable, a net reduction in allowable emissions cannot occur if Mirant now proposes annual allowable emissions in excess of that properly defined baseline. Analogous to EPA’s characterization of “allowable” in the context of credits for emissions trading as set out in EPA’s 1986 Emissions Trading Policy Statement, the governing principle is that the PRGS should not derive a proposed benefit from reducing emissions that currently are unlawful or where such reductions are otherwise already required.

The intended purpose of the project also determines the eligibility of the stack merge for emissions credit. As stated above, Mirant intends to enhance atmospheric dispersion to reduce impacts and gain dispersion credit that would allow an increase in emissions. The United States Circuit Court for the District of Columbia adopted an intent test to determine whether a particular dispersion technique is prohibited under the CAA. Sierra Club v. EPA, 719 F.2d 436, 462 (D.C. Cir. 1983). In promulgating the pertinent regulations, EPA noted that a reduction in actual emissions is critical to a determination of intent. It stated that “[s]ources whose actual emissions are increased . . . create a strong presumption that the combination was carried out in order to avoid the installation of controls.” 50 *Fed. Reg.* 27892, *24 (Lexis pagination)(July 8, 1985).

In a letter dated May 3, 2007, responding in part to Alexandria’s April 11, 2007 letter, EPA deferred its decision on the validity of the Mirant stack merge proposal until such time as a formal request from VDEQ in the form of a SIP revision request or a proposed operating permit. Consequently, as the SAPCB acknowledged at its April 10, 2007 meeting, it falls to the SAPCB to determine whether Mirant may receive emissions credit as a result of the merging of the PRGS’s stacks. Specific to criteria set out in EPA’s May 3rd letter, Alexandria submits the following:

- EPA assumes that the installation of the Trona injection system and the stack merger project were proposed contemporaneously in June 2006. In fact, the PRGS initiated the use of Trona during fall of 2005 shortly after the operations resumed in September 2005. Furthermore, in its operating plan prepared in response to the DOE order of December 20, 2005, Mirant included the use of Trona and prepared a timetable for completion of the Trona system. Indeed, the installation of the Trona system was completed for all five boilers in March 2006. Starting in December 2005, Mirant has not operated any boiler without the use of Trona. The use of Trona was necessary to allow the plant’s operations in a manner that complies with NAAQS. Subsequent to this period, in August 2006, Mirant formally proposed the stack merger project in its Form 7 submittal to VDEQ as an independent dispersion technique to resolve the issue of downwash. More importantly, Mirant has made no showing that the stack merger is a necessary or even legitimate part of the Trona-based pollution control project.

Mirant merely argues that the stack merge project is fortuitously contemporaneous with the Trona project. Such happenstance, even if correct, is insufficient to meet the regulatory requirements for approval by the SAPCB of any dispersion technique exemption.

- EPA states that a reduction in allowable emissions from the current regulatory limits of 1.52 lb/MMBtu for SO₂ and 0.12 lb/MMBtu for PM₁₀ may be sufficient reason to allow dispersion credit for the stack merger project. EPA fails to consider, however, that the regulations require the reduction in emissions to be achieved by installation of pollution controls and not by merely accepting a lower emission limit. Mirant has not proposed to install any pollution controls for PM₁₀ as a part of the stack merger project.
- EPA also assumes that stack height regulations allow merged stacks to obtain credit for dispersion up to that achieved by a Good Engineering Practice ("GEP") stack height. This applies, however, only to stacks that were originally designed and constructed with merged exhausts. The regulations do not allow such credit for merging of existing stacks without the installation of pollution controls.

Finally, Alexandria reiterates its request that the SAPCB establish (i) a Local Air Pollution Control District comprising those areas of Alexandria impacted by the PRGS's emissions and site activities and (ii) a Local Air Pollution Control Committee with jurisdiction in the Local District to assist in implementing and ensuring compliance with the air monitoring programs.

Respectfully submitted,



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Counsel for the City of Alexandria

Ignacio B. Pessoa
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City of Alexandria

Attachments

cc: The Honorable James P. Moran
The Honorable Richard L. Saslaw, Senate of Virginia
The Honorable Patricia S. Ticer, Senate of Virginia
The Honorable Adam P. Ebbin, Virginia House of Delegates
The Honorable David L. Englin, Virginia House of Delegates
The Honorable Brian J. Moran, Virginia House of Delegates
The Honorable Mayor and Members of Alexandria City Council
Donald S. Welsh, Regional Administrator, EPA III
Judith Katz, Director, Air Protection, EPA III
Richard D. Langford, Chairman, Virginia SAPCB
Bruce C. Buckheit, Virginia SAPCB
John N. Hanson, Virginia SAPCB
Hullihen Williams Moore, Virginia SAPCB
Vivian E. Thomson, Virginia SAPCB
David Paylor, Director, VDEQ
James K. Hartmann, City Manager, Alexandria
Richard J. Baier, Director, T&ES, Alexandria
William J. Skrabak, T&ES, Alexandria

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ATTACHMENT 1 - Maximum Impacts^(a,d) for SAPCB's Proposed Permit Options vs. NAAQS
Impacts in Excess of NAAQS are Circled

Specifications	Option 2 Permit			Option 3 Permit	
	Scenario 1	Scenario 2 ^(b)	Scenario 3 ^(b)	Scenario 1	Scenario 2
Period	Jun. 1 - Sep. 30	Oct. 1 - Mar. 31	Annual	June 1 - Mar. 31	Annual
Tons of SO ₂	1,320	2,000	3,500	3,300	3,500
3-hr rolling, lb/MMBtu	0.5	0.4	0.28	not spec'd	not spec'd
lb/hr-unit or -facility (A2)	338	270	270	1,000	800
boilers operating	all	all	all	3,4,5	3,4,5
load assumption	mid	mid	max	mid	max

1-Hour

location of overall max	MT Rooftop	Alex House	Alex House	MT Rooftop	MT Rooftop
date of overall max	9/19/03	10/27/03	5/26/00	9/19/03	4/20/00
Overall Max	2,847	2,016	2,198	2,020	1,420
Level of concern	1,571	1,571	1,571	1,571	1,571
L. of Endangerment	5,238	5,238	5,238	5,238	5,238

3-Hour

location of overall max	MT Rooftop	MT Rooftop	MT Rooftop	MT Rooftop	MT Rooftop
date of overall max	9/18/03	10/4/02	9/19/03	9/19/03	9/19/03
Overall Max. + Backgr.	2,559	1,245	1,651	1,613	1,115
NAAQS	1,300	1,300	1,300	1,300	1,300

24-Hour

location of overall max	Harbor Terrace	Harbor Terrace	Harbor Terrace	Harbor Terrace	Harbor Terrace
date of overall max	9/18/03	2/15/03	2/16/03	2/15/03	2/16/03
Overall Max. + Backgr.	695	709	665	702	521
NAAQS	365	365	365	365	365

Annual^(e)

location of maximum	--	--	Harbor Terrace	--	Harbor Terrace
Overall Max. + Backgr.	--	--	54	--	44
NAAQS	--	--	80	--	80

Controlling Period	24-hour	24-hour	24-hour	24-hour	24-hour
Must Scale Rates by ^(f)	48%	47%	51%	48%	65%
Tons of SO ₂ for period	639	948	1,779	1,581	2,275
3-hr rolling, lb/MMBtu	0.24	0.19	0.14	not spec'd	not spec'd
lb/hr-unit (or facility, A2)	164	128	137	479	520

Notes:

- AERMOD Version 07026 / AERMET Version 06341 with Wind Tunnel Study EBDs, except for neighboring elevated structures that were not included in the wind tunnel study, for which BPIP-PRIME dimensions were used.
- All results derived using AERMET V.06341 w. surface roughness equal 0.10 for full circle around meteorological tower. Wind tunnel EBDs specifically derived for Marina Towers on Marina Towers receptors only, and wind tunnel EBDs for ground-level receptors. Default downwash dimensions (BPIP-PRIME) for all other elevated structures, which include Harbor Terrace, Alexandria, Port Royal Condos, Trans Potomac Airport meteorological threshold (<1.5 mps considered calm).
- Attachment 1's Scenario 2 and 3 use equivalent short-term rate in grams; results vary due to load assumed.
- Background values assumed equal to 176, 55 and 16 for 3-hour, 24-hour and annual, respectively.
- Annual impacts use short-term impacts, scaled.
- Scale factor calculated using most restrictive period's impact for facility w/out background, divided by NAAQS-background.